

In the Claims:

Please amend the claims as follows:

Cancel claims 1-20

21. (New) A catalyst, comprising: alumina; at least 8 weight percent nickel; at least 8 weight percent molybdenum; and between about 0.1 weight percent to about 3 weight percent phosphorous; wherein said catalyst is prepared by

forming a support, said support comprises alumina and nickel,

wherein said nickel is present in said support in an amount of no more than 1 weight percent, and

wherein said support is formed by mixing alumina, water, a nickel compound, and an acid selected from the group consisting of nitric acid and acetic acid, to thereby form a mixture thereof, extruding said mixture, and calcining, at a first calcining temperature, said mixture to thereby form said support;

impregnating said support with a first solution of a nickel compound to thereby form an impregnated support; and

calcining, at a second calcining temperature, said impregnated support to thereby provide a calcined impregnated support;

incorporating molybdenum and phosphorous into said calcined impregnated support to thereby provide a molybdenum/phosphorous incorporated material; and

thereafter, calcining, at a third calcining temperature, said molybdenum/phosphorous incorporated material to thereby provide said catalyst.

22. (New) A catalyst as recited in claim 21, wherein the amount of nickel in said catalyst is at least 10 weight percent.

23. (New) A catalyst as recited in claim 22, wherein the amount of molybdenum in said catalyst is in the range of from 8 weight percent to 14 weight percent.

24. (New) A catalyst as recited in claim 23, wherein said first calcining temperature is in the range of from 450 °C to 700 °C, wherein said second calcining temperature is in the range of at least 427 °C, and said third calcining temperature is in the range of from 450 °C to 700 °C.

25. (New) A catalyst as recited in claim 24, wherein said incorporating step includes impregnating said calcined impregnated support with a second solution containing a molybdenum compound and phosphoric acid to thereby provide said molybdenum/phosphorous incorporated material so as to provide said catalyst.

26. (New) A catalyst as recited in claim 25, wherein said nickel compound is nickel nitrate.

27. (New) A catalyst, consisting essentially of: alumina; at least 8 weight percent nickel; at least 8 weight percent molybdenum; and between about 0.1 weight percent to about 3 weight percent phosphorous; wherein said catalyst is prepared by forming a support, said support comprises alumina and nickel, wherein said nickel is present in said support in an amount of no more than 1 weight percent, and wherein said support is formed by mixing alumina, water, a nickel compound, and an acid selected from the group consisting of nitric acid and acetic acid, to thereby form a mixture thereof, extruding said mixture, and calcining, at a first calcining temperature, said mixture to thereby form said support; impregnating said support with a first solution of a nickel compound to thereby form an impregnated support; and calcining, at a second calcining temperature, said impregnated support to thereby provide a calcined impregnated support; incorporating molybdenum and phosphorous into said calcined impregnated support to thereby provide a molybdenum/phosphorous incorporated material; and thereafter, calcining, at a third calcining temperature, said molybdenum/phosphorous incorporated material to thereby provide said catalyst.

28. (New) A catalyst as recited in claim 27, wherein the amount of nickel in said catalyst is at least 10 weight percent.

29. (New) A catalyst as recited in claim 28, wherein the amount of molybdenum in said catalyst is in the range of from 8 weight percent to 14 weight percent.

30. (New) A catalyst as recited in claim 29, wherein said first calcining temperature is in the range of from 450 °C to 700 °C, wherein said second calcining temperature is in the range of at least 427 °C, and said third calcining temperature is in the range of from 450 °C to 700 °C.

31. (New) A catalyst as recited in claim 30, wherein said incorporating step includes impregnating said calcined impregnated support with a second solution containing a molybdenum compound and phosphoric acid to thereby provide said molybdenum/phosphorous incorporated material so as to provide said catalyst.

32. (New) A catalyst as recited in claim 31, wherein said nickel compound is nickel nitrate.